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**PATENT APPLICATION**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re application of

Docket No. Q57577

Baik-Hee HAN

Appln. No. 09/487,729

Group Art Unit: 2614

Confirmation No. 3502

Examiner: NATNAEL, Paulos M.

Filed: January 19, 2000

For: AUTOMATIC CHANNEL MEMORY DEVICE

**SUBMISSION OF APPEAL BRIEF**

**MAIL STOP APPEAL BRIEF - PATENTS**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

A Notice of Appeal was previously filed for the present application on December 16, 2003 followed by an Appeal Brief on February 11, 2004. The requisite fees were submitted with both filings. Thereafter, prosecution was reopened by the Patent Office prior to a decision on the merits by the Board of Patent Appeals and Interferences. Consequently, it is respectfully requested that the fee paid for the previously filed Appeal Brief be applied to the present (later-filed) appeal pursuant to MPEP § 1208.02.

Therefore, no fee for the Submission of Appeal Brief is enclosed. The USPTO is directed and authorized, however, to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account. A duplicate copy of this paper is attached.

Respectfully submitted,

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**APPEAL BRIEF UNDER 37 C.F.R. § 41.37**

**MAIL STOP APPEAL BRIEF - PATENTS**

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Sir:

In accordance with the provisions of 37 C.F.R. § 41.37 Appellant is submitting an Appeal Brief to appeal from the Final Office Action dated December 29, 2004 (hereinafter the "Final Office Action"), wherein claims 1, 3-5 and 7-8 are finally rejected. This Appeal Brief is accompanied by a Submission, with the required appeal fee having been paid for an Appeal Brief (filed on February 11, 2004) in a previously-filed appeal, which was not decided on the merits due to prosecution being reopened. Appellant's Notice of Appeal was filed on March 23, 2005. Therefore, the present Appeal Brief is timely filed.

APPEAL BRIEF PURSUANT TO 37 C.F.R. § 41.37  
U.S. Application No. 09/487,729  
Attorney Docket No. Q57577

## **Table of Contents**

I.	REAL PARTY IN INTEREST.....	3
II.	RELATED APPEALS AND INTERFERENCES.....	4
III.	STATUS OF CLAIMS .....	5
IV.	STATUS OF AMENDMENTS .....	6
V.	SUMMARY OF THE CLAIMED SUBJECT MATTER .....	7
VI.	GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL .....	11
VII.	ARGUMENT.....	12
	CLAIMS APPENDIX.....	17
	EVIDENCE APPENDIX:.....	20
	RELATED PROCEEDINGS APPENDIX.....	21

APPEAL BRIEF PURSUANT TO 37 C.F.R. § 41.37  
U.S. Application No. 09/487,729  
Attorney Docket No. Q57577

**I. REAL PARTY IN INTEREST**

The real party in interest is SAMSUNG ELECTRONICS CO., LTD. (Assignee) by virtue of an assignment executed by the inventor (Appellant), on February 15, 2000, and recorded by the Assignment Branch of the U.S. Patent and Trademark Office on May 25, 2000 (at Reel 010815, Frame 0864).

APPEAL BRIEF PURSUANT TO 37 C.F.R. § 41.37  
U.S. Application No. 09/487,729  
Attorney Docket No. Q57577

**II. RELATED APPEALS AND INTERFERENCES**

Upon information and belief, there are no other prior or pending appeals, interferences, or judicial proceedings known to Appellant, Appellant's representatives or the Assignee that may be related to, be directly affected by, or have a bearing on the Board's decision in this appeal.

APPEAL BRIEF PURSUANT TO 37 C.F.R. § 41.37  
U.S. Application No. 09/487,729  
Attorney Docket No. Q57577

**III. STATUS OF CLAIMS**

Each of pending claims 1, 3-5 and 7-8 is finally rejected (*see* the Final Office Action).

Consequently, claims 1, 3-5 and 7-8 are the claims on appeal (*see* Claims Appendix).

APPEAL BRIEF PURSUANT TO 37 C.F.R. § 41.37  
U.S. Application No. 09/487,729  
Attorney Docket No. Q57577

**IV. STATUS OF AMENDMENTS**

In the Final Office Action, which was mailed on December 29, 2004, pending claims 1, 3-5 and 7-8 are finally rejected. No amendments were filed subsequent to this Final Office Action.

**V. SUMMARY OF THE CLAIMED SUBJECT MATTER**

**Background**

The present invention relates to an automatic channel memory device for automatically memorizing a tuned channel if a broadcasting signal is present in the tuned channel (Appellant's page 1, lines 4-8).

In a first conventional channel memorization technique, a user must first select (*i.e.*, tune to) a desired channel (*e.g.*, using a remote control device) and then press a special channel memory button 10 to memorize the tuned channel (Appellant's page 1, lines 10-13; and Prior Art Fig. 1).

This first conventional technique requires a user to perform two actions for each and every channel that is to be memorized, *i.e.*, the user must both tune to the channel and then separately indicate that the channel is to be memorized. Furthermore, this technique requires that a special dedicated button be provided (*e.g.*, on the remote control device) for indicating a user's desire to memorize a tuned channel. The inclusion of an additional dedicated button increases both the complexity and the cost of the remote controller. Further still, since this technique does not check whether a broadcasting signal is present in the tuned channel, it is possible for a user to inadvertently memorize a channel on which nothing is being broadcast.

In a second conventional channel memorization technique, a menu setting key 12 is used to access a menu screen (*e.g.*, an auto-programming menu screen) in order to initiate/set scanning of all channels, wherein the channels having a broadcasting signal are automatically memorized (Appellant's page 1, lines 13-15; and Prior Art Fig. 1).

APPEAL BRIEF PURSUANT TO 37 C.F.R. § 41.37  
U.S. Application No. 09/487,729  
Attorney Docket No. Q57577

This second conventional technique requires a user to access and set a specific menu function in order to memorize channels, which is inconvenient in practical use. Furthermore, this technique requires that a dedicated menu be provided for indicating a user's desire to initiate/set channel memorization. Further still, this technique requires that all channels are processed to memorize any channels, as opposed to memorizing channels on a channel-by-channel basis.

Claims 1, 3-5 and 7-8

In view of the above exemplary problems of the conventional channel memorization techniques, the claimed invention provides an automatic channel memory device (*see, e.g.*, claims 1 and 5) for determining whether a signal is present in a tuned channel, when a channel is tuned, and for automatically memorizing the channel number if a signal is present in the tuned channel (Appellant's page 1, lines 21-24).

An exemplary embodiment of the present invention includes a key input 200, a tuner 202, a signal processor 204, a memory 206, a character signal generator 208, a mixer 210, a display 212 and a controller 214 (Appellant's Fig. 2).

The key input 200 includes a remote controller having digit buttons (Appellant's Fig. 3). Unlike the remote controller used in the aforementioned conventional techniques, in the present invention, a dedicated memory and/or menu button is not needed (*c.f.*, Prior Art Fig. 1 and Appellant's Fig. 3). The key input 200 is used for inputting a channel number according to a user's selection (Appellant's claims 1 and 5).

APPEAL BRIEF PURSUANT TO 37 C.F.R. § 41.37  
U.S. Application No. 09/487,729  
Attorney Docket No. Q57577

The controller 214 receives the channel number output from the key input 200 and controls the tuner 202 to tune to a broadcasting channel corresponding to the received channel number (Appellant's claims 1 and 5). The signal processor 204 processes a composite video signal tuned and output from the tuner 202.

In particular, the controller 214 receives the signal output from the signal processor 204, determines whether or not a broadcasting signal is present in the currently tuned broadcasting channel and stores the corresponding broadcasting channel number in the memory 206 only when a broadcasting signal is present (Appellant's page 3, lines 19-23; and claims 1 and 5).

Additionally, the controller 214 can control the character signal generator 208 to generate a channel number for the channel which is currently being broadcast 40 and a character string 42 (*e.g.*, "memory") so that a user can easily identify the memorization of a tuned broadcasting channel (Appellant's page 3, lines 23-27; Fig. 4; and claims 2 and 6).

Thus, unlike the aforementioned conventional techniques, according to the present invention, the mere act of tuning to a channel, in which a broadcasting signal is present, automatically results in the memorization of the tuned channel number. Additionally, a user wanting to memorize a channel is not inconvenienced by additional buttons, operations, menus, etc. Furthermore, only those channels that a user actually tunes to are memorized. Therefore, a user is not forced to wait for the processing of each and every channel, which can take a considerable amount of time for a large number of channels. Further still, the user is not forced to go back and manually delete channels that were memorized during an auto-programming menu function, but in which the user has no interest.

APPEAL BRIEF PURSUANT TO 37 C.F.R. § 41.37  
U.S. Application No. 09/487,729  
Attorney Docket No. Q57577

Means-Plus-Function Claims

No means-plus-function or step-plus-function claims have been identified among the claims on appeal.

APPEAL BRIEF PURSUANT TO 37 C.F.R. § 41.37  
U.S. Application No. 09/487,729  
Attorney Docket No. Q57577

**VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL**

1. Claims 1 and 5 are rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by U.S. Patent No. 6,344,882 to Shim et al. (hereinafter “Shim”).
2. Claims 3-4 and 7-8 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over the proposed combination of Shim in view of U.S. Patent No. 5,969,769 to Hamadate (hereinafter “Hamadate”).

APPEAL BRIEF PURSUANT TO 37 C.F.R. § 41.37  
U.S. Application No. 09/487,729  
Attorney Docket No. Q57577

**VII. ARGUMENT**

**1. Claims 1 And 5 Are Not Anticipated By Shim**

As noted above, claims 1 and 5 stand rejected under § 102(e) as allegedly being anticipated by Shim. The Examiner's rejection of claim 1 (and subsequently added claim 5) is essentially the same as that set forth in the very first Office Action dated August 28, 2002. It is respectfully submitted that Shim fails to disclose each and every feature recited in claim 1 (and claim 5).

For example, claim 1 recites a unique combination of features including, *inter alia*, a controller for receiving the channel number output from the key input and storing the channel number output from the key input in the memory while controlling the tuner to tune to a broadcasting channel corresponding to the received channel number. In the Office Action, the Examiner alleges that the controller of claim 1 is met by microcomputer 18, as shown in Fig. 6 of Shim (Final Office Action: page 3).

To the contrary, the microcomputer 18 does not store channel numbers output from a key input. Instead, Shim discloses that the microcomputer 18 stores channel numbers based on an automatic channel scanning process (Shim: col. 7, lines 4-34; and Fig. 10). In this regard, Shim is not substantially different from the second conventional technique described above (*see also* Appellant's specification: page 1). Furthermore, the aspect of Shim that describes individually tuning a specific channel in response to a user's key input does not disclose storing the channel information, but instead relates to a high speed channel switching method (*see, e.g.*, Shim: col. 8: line 66 to col. 9, line 35; and Fig. 11).

APPEAL BRIEF PURSUANT TO 37 C.F.R. § 41.37  
U.S. Application No. 09/487,729  
Attorney Docket No. Q57577

Additionally, the Examiner's statement (on page 9 of the Final Office Action) that Shim does not use the phrase "automatic channel scanning process" is irrelevant since the process described in Shim (*i.e.*, the automatic channel storage disclosed, for example, at col. 7, line 36 to col. 8, line 29), on which the Examiner relies, is clearly an automatic channel scanning process similar to the second conventional technique described above (*see also* Appellant's specification: page 1, lines 13-15).<sup>1</sup>

Further evidence of the Examiner's misreading of Shim is his statement (on pages 9-10 of the Final Office Action) that Shim discloses selecting only a single channel during the aforementioned automatic channel storage process. To the contrary, Shim discloses that the automatic channel storage process begins by the user inputting a special key signal "in order to carry out the automatic channel storage" (Shim: col. 7, lines 37-40), which is no different than the menu setting key described above in the context of the second conventional technique. In Shim, one channel is processed at a time during the automatic channel storage process by the automatic selection of that channel (Shim: col. 7, lines 40-42). Thereafter, similar processing is

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<sup>1</sup> It is insightful to also consider the prior art Fig. 5(a) of Shim, which is characterized in Shim as showing how an automatic channel storage mode is applied to a conventional television set (Shim: col. 2, lines 15-17). As noted in Shim, the conventional automatic channel storage mode shown in Fig. 5(a) includes the automatic scanning of all channels, *i.e.*, one-by-one (Shim: col. 2, lines 20-33). Thus, channels are stored in memory only as a result of the automatic scanning of the channels (Shim: col. 2, lines 62-67; and Fig. 5(a)). The disclosure of Shim relates to speeding up this conventional automatic searching and storing of channels (Shim: col. 1, lines 8-14; and Fig. 10), but Shim does not disclose or suggest the features of Appellant's claimed invention, for example, determining whether a tuned channel (*i.e.*, tuned according to a user's selection) contains a broadcasting signal and storing the tuned channel number only if the broadcasting signal is present.

APPEAL BRIEF PURSUANT TO 37 C.F.R. § 41.37  
U.S. Application No. 09/487,729  
Attorney Docket No. Q57577

automatically carried out for each and every channel (Shim: col. 8, lines 19-22).<sup>2</sup> Thus, Shim is fundamentally different than the claimed invention.

For example, the key signal described in Shim for starting the automatic channel storage process does not correspond to a channel number input (via a key input) according to a user's selection, as recited in Appellant's claim 1 (*see also* Appellant's: claim 5).

Appellant's claim 1 further recites that "the controller receives a signal output from the signal processor, determines whether a broadcasting signal is present in the currently tuned broadcasting channel and stores the corresponding broadcasting channel number in the memory only if said broadcasting signal is present." In the Final Office Action, the Examiner alleges that these features of claim 1 are met by the disclosure of Shim (*see* Shim: col. 6, lines 44-49) that a synchronization detection unit 15 detects the synchronization signals output from the intermediate frequency signal processing unit 12 in order to discriminate whether there exists any broadcast signals at the time of channel switching and supplies them to the microcomputer 18 (Final Office Action: page 3).

The Examiner also cites the disclosure of Shim (*see* Shim: col. 6, lines 53-58) in alleging that the microcomputer 18 discriminates whether there exists any broadcast signals on the pertinent channel on the basis of the IF AGC supplied from the intermediate frequency signal

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<sup>2</sup> The Examiner acknowledges as much in the Final Office Action by noting that "once the discrimination [of a first automatically selected channel] is done, the next channel is immediately selected and the said process is carried out repeatedly until all channels have been checked" (*see* the Final Office Action: page 11).

APPEAL BRIEF PURSUANT TO 37 C.F.R. § 41.37  
U.S. Application No. 09/487,729  
Attorney Docket No. Q57577

processing unit 12 through the level shifter 22 and, if a broadcast signal is discriminated, then the microcomputer 18 stores such channel data in memory 17 (Final Office Action: page 4).

The portions of Shim relied on by the Examiner, however, relate to an *automatic channel storage* process, wherein each and every channel is automatically scanned and analyzed, and not to a user using a key input to input a channel number according to the user's selection. This is evident, for example, from Fig. 10 of Shim, wherein a high speed automatic channel storage method is illustrated (*see also* Shim: col. 7, lines 28-35).

Furthermore, Shim discloses that the “[m]icrocomputer 18 outputs a series of tuning data from the automatic channel storage mode to tuner 11 and drives simultaneously the speed-up drive units 19 and 20 for high speed tuning” (Shim: col. 6, lines 50-53). Thus, because the microcomputer 18 outputs a *series* of tuning data, the portions of Shim relied on by the Examiner do not relate to a situation in which a user enters a channel number via a key input, but rather that these portions relate to an automatic scanning of channels.

In view of the above-described differences between Shim and the invention as defined in claim 1, Shim does not anticipate, or otherwise render obvious, the subject matter of claim 1. Claim 5 recites features similar to those found in claim 1 and, thus, claim 5 is not anticipated by Shim based on a rationale analogous to that set forth above for claim 1.

## **2. Claims 3-4 and 7-8 Are Patentable Over The Proposed Combination**

Claims 3-4 and 7-8 stand rejected under § 103(a) as allegedly being unpatentable over Shim in view of Hamadate. It is respectfully submitted that Hamadate fails to cure the exemplary deficiencies of Shim, as described above for claim 1 (and claim 5). Consequently,

APPEAL BRIEF PURSUANT TO 37 C.F.R. § 41.37  
U.S. Application No. 09/487,729  
Attorney Docket No. Q57577

claims 3-4 and 7-8 are patentable over the proposed combination of Shim and Hamadate at least by virtue of their dependency.

Since the fee required under 37 C.F.R. § 41.37 was previously submitted with an earlier-filed Appeal Brief (on February 11, 2004) in an appeal from which prosecution was reopened by the Patent Office prior to a decision on the merits by the Board of Patent Appeals and Interferences, it is respectfully requested that the fee paid for the earlier-filed Appeal Brief be applied to the present (later-filed) appeal pursuant to MPEP § 1208.02.

Unless a check is submitted herewith for the fee required under 37 C.F.R. §41.37(a) and 1.17(c), please charge said fee to Deposit Account No. 19-4880.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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APPEAL BRIEF PURSUANT TO 37 C.F.R. § 41.37  
U.S. Application No. 09/487,729  
Attorney Docket No. Q57577

**CLAIMS APPENDIX**

CLAIMS 1, 3-5 AND 7-8 ON APPEAL:

1. A channel memory device in a broadcasting signal processor, comprising:
  - a key input for inputting a channel number according to a user's selection;
  - a tuner for tuning to a channel corresponding to the channel number selected by the key input, among received broadcasting signals;
  - a signal processor for processing a composite video signal of said channel tuned and output from the tuner;
  - a memory for storing the channel number; and
  - a controller for receiving the channel number output from the key input and storing the channel number output from the key input in the memory while controlling the tuner to tune to a broadcasting channel corresponding to the received channel number,  
wherein the controller receives a signal output from the signal processor, determines whether a broadcasting signal is present in the currently tuned broadcasting channel and stores the corresponding broadcasting channel number in the memory only if said broadcasting signal is present.
  
3. The channel memory device according to claim 1, further comprising:
  - a character signal generator for generating a character signal for indicating the memorization of the channel number selected by the key input;

APPEAL BRIEF PURSUANT TO 37 C.F.R. § 41.37  
U.S. Application No. 09/487,729  
Attorney Docket No. Q57577

a mixer for mixing a signal output from the signal processor with a signal output from the character signal generator; and  
a display for displaying a signal output from the mixer.

4. The channel memory device according to claim 3, wherein the controller controls the character signal generator to generate a current broadcasting channel number and a character signal indicating the memorization of the channel number, so that said user can easily identify the memorized broadcasting channel.

5. A channel memory device in a broadcasting signal processor, comprising:  
a key input for inputting a channel number according to a user's selection;  
a tuner for tuning to a channel corresponding to the channel number selected by the key input, among received broadcasting signals;  
a signal processor for processing a composite video signal of said channel tuned and output from the tuner;  
a memory for storing the channel number; and  
a controller for receiving the channel number output from the key input and automatically storing the channel number output from the key input in the memory while controlling the tuner to tune to a broadcasting channel corresponding to the received channel number,  
wherein the controller receives a signal output from the signal processor, determines whether a broadcasting signal is present in the currently tuned broadcasting channel and stores the

APPEAL BRIEF PURSUANT TO 37 C.F.R. § 41.37  
U.S. Application No. 09/487,729  
Attorney Docket No. Q57577

corresponding broadcasting channel number in the memory only if said broadcasting signal is present.

7. The channel memory device according to claim 5, further comprising:

a character signal generator for generating a character signal for indicating the memorization of the channel number selected by the key input;  
a mixer for mixing a signal output from the signal processor with a signal output from the character signal generator; and  
a display for displaying a signal output from the mixer.

8. The channel memory device according to claim 7, wherein the controller controls the character signal generator to generate a current broadcasting channel number and a character signal indicating the memorization of the channel number, so that said user can easily identify the memorized broadcasting channel.

APPEAL BRIEF PURSUANT TO 37 C.F.R. § 41.37  
U.S. Application No. 09/487,729  
Attorney Docket No. Q57577

**EVIDENCE APPENDIX:**

NONE.

APPEAL BRIEF PURSUANT TO 37 C.F.R. § 41.37  
U.S. Application No. 09/487,729  
Attorney Docket No. Q57577

**RELATED PROCEEDINGS APPENDIX**

NONE.